

Claims

What is claimed is:

1. A system for supplying current from a supply to a dimmable electrical lighting load, the system comprising:

a dimmer controllable by a user, and arranged to receive and regulate electrical power from the supply; and

a receptacle having at least one opening adapted for receipt of a corresponding blade of a compatible plug, the receptacle arranged to be supplied with electrical power regulated by the dimmer, said receptacle comprising:

at least a first electrical contact located for contact with a first blade of a compatible plug received by a corresponding first opening of the receptacle to establish an electrical connection between said first blade and said first electrical contact; and

a receptacle formation of a mating formation pair preventing a general-use standard plug from establishing electrical connection with said receptacle, said receptacle formation allowing an otherwise standard plug defining a plug formation of said mating formation pair corresponding to said receptacle formation from establishing electrical connection with said receptacle.

2. The current supply system according to claim 1, wherein the receptacle formation of said mating formation pair comprises a projection that prevents the blades of a standard plug from being inserted into the openings of the receptacle by an amount sufficient to establish electrical connection with the first electrical contact of said receptacle.

3. The current supply system according to claim 2, further comprising:
a second electrical contact; and
a non-conductive face member covering said first and said second electrical contacts, the face member defining first and second openings for receipt of corresponding first and second blades of a compatible plug;

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wherein said projection extends outwardly from said face member between said first and second openings.

4. The current supply system according to claim 3, wherein said projection is elongated in a direction that is substantially parallel to a height defined by at least one of the first and second openings.

5. The current supply system according to claim 4, wherein said projection defines a convex configuration such that a middle portion of the projection extends from said face member to a distance that is greater than a projection distance for end portions of said projection located of opposite sides of said middle portion.

6. The current supply system according to claim 3, wherein said first and second contacts are arranged to supply power to a circuit that includes a load connected to a compatible plug having the plug formation of said mating formation pair.

7. The current supply system according to claim 1, wherein the receptacle formation and plug formation of said mating formation pair are respectively defined by one of the openings of said receptacle and a corresponding one of the blades of a compatible non-standard plug, the respective opening and blade defining said mating formation pair configured such that blades of a standard plug not defining the corresponding plug formation of said mating formation pair will be prevented from insertion into said receptacle by an amount sufficient to establish electrical connection between said first electrical contact and one of the blades of the standard plug, while insertion of a compatible blade defining the plug formation of said mating formation pair sufficient to establish electrical connection is permitted.

8. The current supply system according to claim 7, wherein the opening and blade respectively defining the receptacle and blade formations of said mating formation pair each define a cross section having a dimension that is reduced with respect to a corresponding dimension of a corresponding blade and opening provided by a standard plug and a standard receptacle.

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9. The current supply system according to claim 8, wherein the cross section of the blade defining the plug formation of said mating formation pair includes a width and a height, the height of the blade defining said plug formation is reduced with respect to a height defined by a corresponding blade of a standard plug, the width of the blade defining said plug formation is substantially equal to a width defined by the corresponding blade of the standard plug.

10. The current supply system according to claim 8, wherein the cross section of the opening defining the receptacle formation of said mating formation pair includes a width and a height, the height of the opening defining said receptacle formation is reduced with respect to a height defined by a corresponding opening of a standard receptacle, the width of the opening defining said receptacle formation is substantially equal to a width defined by the corresponding opening of the standard receptacle.

11. The current supply system according to claim 10, wherein the receptacle is polarized and wherein the opening defining said receptacle formation controls access to a hot electrical contact.

12. The current supply system according to claim 1 wherein the receptacle defining the receptacle formation of the mating formation pair is included in a common housing with at least one standard receptacle.

13. A dimmable lighting unit comprising:
a lamp capable of being operated from a selected one of a standard power supply or a dimmed power supply; and
a plug electrically connected to said lamp for insertion into a receptacle to receive power from the selected power supply and supply such power to said lamp;
said lamp plug adapted for insertion into a receptacle complying with a standard for general-use plugs and receptacles, said lamp plug further adapted to define a plug formation of a mating formation pair corresponding to a receptacle formation of said mating formation pair, said receptacle formation preventing a standard plug not defining said plug formation from establishing an electrical connection with said receptacle, said

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receptacle formation permitting insertion of said lamp plug by an amount sufficient to establish an electrical connection.

14. The dimmable lighting unit according to claim 13, wherein:
the receptacle formation of said mating formation pair is a projection on the receptacle; and
wherein the plug formation of said mating formation pair is a recess adapted for receipt of said projection such that insertion of a standard plug not defining said recess by an amount sufficient to establish electrical connection is prevented.
15. The dimmable lighting unit according to claim 14, wherein said lamp plug includes first and second blades adapted to establish electrical connection with first and second electrical contacts of said receptacle to provide current to the lamp.
16. The dimmable lighting unit according to claim 15, wherein said lamp plug further comprises a grounding pin adapted to establish electrical connection with a grounding contact of said receptacle.
17. The dimmable lighting unit according to claim 15, wherein said recess is located between the first and second blades of said lamp plug.
18. The dimmable lighting unit according to claim 17, wherein the recess in said lamp plug is elongated in a direction that is perpendicular to a length of at least one of the first and second blades of said lamp plug.
19. The dimmable lighting unit according to claim 18, wherein the recess in said lamp plug is deeper in a middle portion of said recess than in end portions located on opposite sides of the middle portion.
20. The dimmable lighting unit according to claim 13, wherein:
said lamp plug comprises at least one electrical blade adapted to conduct current to said lamp; and
wherein the plug formation of said mating formation pair is defined by one of the blades of said lamp plug, the blade defining said plug formation having a cross section

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including having a dimension that is reduced with respect to that of a corresponding blade of a standard plug.

21. The dimmable lighting unit according to claim 20, wherein the cross section of the blade defining said plug formation includes a height and a width and wherein the height of said blade is reduced with respect to that of the corresponding blade of the standard plug.

22. The dimmable lighting unit according to claim 20, wherein the width of the blade defining said plug formation is substantially equal to that of the corresponding blade of the standard plug.

23. A receptacle unit for supplying both reduced and non-reduced voltage from a supply to an electrical load, the receptacle unit comprising:

a first receptacle complying with a general-use standard for receptacles, adapted to receive plugs complying with a general-use standard for plugs and establish an electrical connection to supply non-reduced voltage to such plugs;

a second receptacle arranged to be supplied with a reduced voltage and having at least one electrical contact, said second receptacle configured to receive a plug having at least one electrical contact for electrical connection with the electrical contact of said second receptacle; and

a receptacle formation of a mating formation pair located on said second receptacle to prevent general-use standard plugs from being inserted into said second receptacle by a sufficient amount to establish electrical connection therewith;

the receptacle formation of said mating formation pair permitting insertion of a plug having a plug formation of said mating formation pair corresponding to said receptacle formation but otherwise complying with said general-use standard.

24. The receptacle unit according to claim 23, wherein the receptacle and plug formations of the mating formation pair are adapted such that plugs capable of insertion into said second receptacle can also be inserted into said first receptacle.

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25. The receptacle unit according to claim 23, wherein the receptacle formation of said mating formation pair is defined by a projection on said second receptacle.

26. The receptacle unit according to claim 25, wherein:
said second receptacle further comprises a second electrical contact and a non-conductive face member covering said first and said second electrical contacts, the face member having first and second openings to permit access to said first and second electrical contacts;

and wherein the projection defining said receptacle formation is located between said first and second openings.

27. The receptacle unit according to claim 23, wherein the receptacle formation of said mating formation pair is defined by an opening dimensioned to prevent insertion of a corresponding blade of a standard plug.

28. A receptacle for supplying current from a supply to a load, the receptacle comprising:

at least one electrical contact arranged to deliver current from the supply to a corresponding electrical contact of a plug inserted into the receptacle;

a projection formed on the receptacle to prevent a general-use plug of standard configuration from establishing electrical connection with said at least one contact while permitting insertion of an otherwise standard plug having a recess adapted for receipt of the projection to establish electrical connection with said electrical contact.

29. The receptacle according to claim 28, wherein said projection is electrically non-conductive.

30. The receptacle according to claim 28, further comprising:
a second electrical contact; and
a non-conductive face member covering said first and said second electrical contacts and having first and second openings to permit access to said first and second electrical contacts; and

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wherein the projection on said receptacle is located between said first and second openings.

31. The receptacle according to claim 30, further comprising a grounding conductor.

32. A system for providing current from a line voltage supply to an electrical load, comprising:

a receptacle adapted to be supplied with electrical current from the line voltage supply and including an electrical contact, the receptacle defining a receptacle formation of a mating formation pair; and

a plug adapted to supply current to an electrical load and including a blade, the plug defining a plug formation of said mating formation pair corresponding to said receptacle formation;

the receptacle formation of said mating formation pair preventing insertion of a standard plug not having said plug formation into said receptacle by an amount sufficient to establish electrical connection while permitting insertion of an otherwise standard plug having said plug formation into said receptacle by an amount sufficient to establish electrical connection.

33. The system of claim 32, wherein said receptacle further comprises a second electrical contact and a non-conductive face member covering said first and said second electrical contacts, the receptacle including first and second openings to permit access to said first and second electrical contacts, and wherein the receptacle formation of said mating formation pair is defined by a projection located between said first and second openings.

34. The system of claim 32, wherein the receptacle formation of said mating formation pair is defined by an opening dimensioned to prevent a corresponding blade of a standard general-use plug from establishing electrical connection and wherein the plug formation of said mating formation pair is defined by the blade of said plug, the blade being dimensioned for insertion into said receptacle through said opening.

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35. The system of claim 32, wherein said receptacle further comprises a grounding conductor.

36. An electrical distribution system for supplying current from a supply to an electrical load, comprising:

at least one general-use receptacle including at least a first electrical contact, complying with a general use standard and arranged to receive a corresponding general-use plug such that a contact on said plug can establish electrical connection with said first electrical contact in said receptacle; and

at least one other receptacle including at least a first electrical contact and arranged to prevent said general-use plug from being inserted into it;

wherein said receptacles are so configured that a plug corresponding to said at least one other receptacle is configured to be inserted into both said at least one general-use receptacle and into said at least one other receptacle.

37. The system according to claim 36, further comprising at least one dimmer for supplying power to said at least one other receptacle.

38. A faceplate for use with a receptacle for supplying current from a line voltage supply to an electrical load, the receptacle including at least a first electrical contact, the faceplate defining a receptacle formation of a mating formation pair, said receptacle formation preventing standard plugs from engaging the receptacle sufficiently to establish electrical connection therewith, said receptacle formation permitting engagement by an otherwise standard plug defining a plug formation of said mating engagement pair corresponding to said receptacle formation sufficient to establish an electrical connection.